

WHAT IS CLAIMED IS:

1. A balloon for intracorporeal use formed of a first blend of a first polymeric material having a first Shore durometer hardness, and a second polymeric material having a second Shore durometer hardness less than the first Shore durometer hardness.

2. The balloon of claim 1 wherein the blend comprises about 10% to about 90% of the first polymeric material and about 90% to about 10% of the second polymeric material.

3. The balloon of claim 1 wherein an amount of the first polymeric material in the blend is not greater than an amount of the second polymeric material.

4. The balloon of claim 1 wherein the hoop strength is about 22,000 psi to about 32,000 psi.

5. The balloon of claim 1 wherein the axial growth from a nominal pressure to a rated burst pressure of the balloon is less than about 10% of a working length of the balloon.

6. The balloon of claim 5 wherein the nominal pressure of the balloon is about 6 to about 10 atm and the rated burst pressure is at least about 14 to about 16 atm.

7. A balloon catheter, comprising

5 a) a shaft having a proximal end, a distal end, and a lumen extending therein; and

b) a balloon on the shaft formed of a blend of polymeric materials comprising a first polyether block amide polymeric material having a first Shore durometer hardness, and a second polyether block amide
10 polymeric material having a second Shore durometer hardness less than the first Shore durometer hardness.

8. The balloon catheter of claim 7 wherein the balloon has a compliance which is not substantially greater than a compliance of a
15 balloon consisting of the first polyether block amide polymeric material.

9. The balloon catheter of claim 7 wherein the balloon has a compliance which is not greater than a compliance of a balloon consisting of the first polyether block amide polymeric material.

10. The balloon catheter of claim 7 wherein the blend has a flexural modulus lower than a flexural modulus of the first polyether block amide polymeric material.

5 11. The balloon catheter of claim 7 wherein the balloon has a mean rupture pressure not substantially lower than a balloon consisting of the first polyether block amide polymeric material.

10 12. The balloon catheter of claim 7 wherein the blend comprises an amount of the second polyether block amide polymeric material which is not less than an amount of the first polyether block amide polymeric material.

15 13. The balloon catheter of claim 7 wherein the second polyether block amide polymeric material comprises about 20% to about 80% by weight of the total blend.

20 14. The balloon catheter of claim 7 wherein the second polyether block amide polymeric material comprises about 40% to about 60% by weight of the total blend.

15. The balloon catheter of claim 7 wherein the first polyether block amide polymeric material comprises about 20% to about 80% by weight of the total blend.

5

16. The balloon catheter of claim 7 wherein the first polyether block amide polymeric material comprises about 40% to about 50% by weight of the total blend.

10 17. The balloon catheter of claim 7 wherein the first polyether block amide polymeric material has a Shore durometer hardness of about 60D to about 72D.

18. The balloon catheter of claim 7 wherein the first polyether block amide polymeric material has a Shore durometer hardness of about 70D.

15 19. The balloon catheter of claim 7 wherein the second polyether block amide polymeric material has a Shore durometer hardness of about 55D to about 70D.

20. The balloon catheter of claim 7 wherein the second polyether block amide polymeric material has a Shore durometer hardness of about 63D.

21. The balloon catheter of claim 7 wherein the balloon has a compliance of not greater than about 0.045 mm/atm from a nominal to a rated burst pressure of the balloon.

22. The balloon catheter of claim 7 wherein the balloon has a compliance of not greater than about 0.045 mm/atm over a pressure range of about 8 atm to about 14 atm.

23. The balloon catheter of claim 7 wherein the balloon has a compliance of about 0.03 mm/atm to about 0.035 mm/atm from a nominal to a rated burst pressure of the balloon.

24. The balloon catheter of claim 7 wherein the balloon has a flexural modulus which is less than a flexural modulus of a balloon consisting of the first polyether block amide polymeric material.

25. The balloon catheter of claim 4 wherein the balloon has a flexural modulus of about 10 to about 14 gram/mm.

26. The balloon catheter of claim 7 wherein the balloon has a dual wall thickness of about 0.025 to about 0.056 mm, and a nominal outer diameter of about 1.5 to about 5.0 mm.

27. A balloon catheter, comprising

5 a) an elongated shaft having a proximal end, a distal end, and at least one lumen therein; and

b) a balloon formed at least in part of a blend of
a first polyether block amide polymeric material having a first
Shore durometer hardness of about 70D to about 72D, and being about
10 30% to about 70% by weight of the total blend; and

a second polyether block amide polymeric material having a
second Shore durometer hardness less than the Shore durometer hardness
first polyether block amide polymeric material, being about 40% to about
75% by weight of the total blend.

15 28 The balloon catheter of claim 27 wherein the second polyether block amide polymeric material has a Shore durometer hardness of about 55 D to about 63 D.

29. The balloon catheter of claim 28 wherein the balloon has a compliance of about 0.025 to about 0.040 mm/atm from a nominal to a rated burst pressure.

5 30. The balloon catheter of claim 27 wherein the second polyether block amide polymeric material is about 60% by weight of the total blend and the first polyether block amide polymeric material is about 40% by weight of the total blend.